
Fault detection

Overlay programs

Most faults are detected automatically by diagnostic routines that are provided on the system tape.

The Background Signaling and Switching program (LD 45) is run continuously to test the signaling paths to all PE shelves.

The 1.5 Mb/s RPE Diagnostic program (LD 33) should be included in the midnight routines; see the *X11 input/output guide* (553-3001-400) for procedures that automatically test RPE systems every 24 hours. The program can also be loaded manually to test an RPE system.

The 1.5 Mb/s RPE Diagnostic program for the local end (LD 62) can be loaded manually to test the local equipment associated with an RPE system.

LD 45 and LD 33 may disable parts of RPE systems (network loops) that fail during a test. LD 45 may light the LED on PE shelf cards. Faults are also indicated by an output on a system terminal or by a code on a maintenance display on the common equipment shelf.

To determine the meaning of the mnemonics output on the system terminal, refer to the *X11 input/output guide* (553-3001-400). The first three characters of the output identify the program, and the other characters identify the meaning of the output.

Alarm indications

Local and remote error monitors in the QPC99 indicate when the following occurs:

- the error rate at one of the two carriers exceeds one in 10^4 bits, or
- the carrier loses framing

When a remote error monitor detects an error it sends a message to the central control. If the local monitor is in the error condition or receives an error message from the remote monitor, the background signaling diagnostic takes the following actions:

- The minor alarm lamp at the locally served attendant console(s) is steadily lit.
- The time slots served by the faulty line are busied out.
- The diagnostic messages at all maintenance terminals are printed out.

Lamps are provided on circuit cards QPC62 and QPC99 to indicate out of frame, high error-rate conditions, or both. If the errors are in the carrier line going from the remote equipment to the ORB, an alarm is sounded at the ORB.

Errors in peripheral equipment at the remote location raise the same error and alarm indications as local peripheral equipment.